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## RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/601,561

DATE: 05/24/2001

TIME: 13:38:27

Input Set : A:\Nih332-1.app

Output Set: C:\CRF3\05242001\I601561.raw

ENTERED

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3 <110> APPLICANT: Schneider, Thomas D.
4   Hengen, Paul N.
5   The Government of the United States of America
6   as represented by The Secretary of the
7   Department of Health and Human Services
9 <120> TITLE OF INVENTION: Molecular Computing Elements: Gates and Flip-Flops
11 <130> FILE REFERENCE: 015280-332100US
13 <140> CURRENT APPLICATION NUMBER: US 09/601,561
C--> 14 <141> CURRENT FILING DATE: 2001-05-14
16 <150> PRIOR APPLICATION NUMBER: US 60/075,468
17 <151> PRIOR FILING DATE: 1998-02-20
19 <150> PRIOR APPLICATION NUMBER: WO PCT/US99/03469
20 <151> PRIOR FILING DATE: 1999-02-17
22 <160> NUMBER OF SEQ ID NOS: 19
24 <170> SOFTWARE: PatentIn Ver. 2.1
26 <210> SEQ ID NO: 1
27 <211> LENGTH: 20
28 <212> TYPE: DNA
29 <213> ORGANISM: Artificial Sequence
31 <220> FEATURE:
32 <223> OTHER INFORMATION: Description of Artificial Sequence:consensus
33   sequence of early model of Factor for Inversion
34   Stimulation (Fis) binding site
36 <400> SEQUENCE: 1
37 ttgstcaaaa ttgascaaa                                20
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41 <211> LENGTH: 42
42 <212> TYPE: DNA
43 <213> ORGANISM: Artificial Sequence
45 <220> FEATURE:
46 <223> OTHER INFORMATION: Description of Artificial Sequence:paired Factor
47   for Inversion Stimulation (Fis) binding sites with
48   11 bp spacing; overlap 11
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51 tattctttgc tcaaaatttg atcaaatttt gagcaaagaa ta      42
54 <210> SEQ ID NO: 3
55 <211> LENGTH: 38
56 <212> TYPE: DNA
57 <213> ORGANISM: Artificial Sequence
59 <220> FEATURE:
60 <223> OTHER INFORMATION: Description of Artificial Sequence:paired Factor
61   for Inversion Stimulation (Fis) binding sites with
62   7 bp spacing; overlap 7
64 <400> SEQUENCE: 3
65 aggcttttgc tcaaagtta aactttgagc aaaagcct            38
68 <210> SEQ ID NO: 4
69 <211> LENGTH: 15

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70 <212> TYPE: DNA  
71 <213> ORGANISM: Artificial Sequence  
73 <220> FEATURE:  
74 <223> OTHER INFORMATION: Description of Artificial Sequence:sequence logo  
75 for Factor for Inversion Stimulation (Fis) binding  
76 site  
78 <400> SEQUENCE: 4  
79 gctcaaaatt tgatc 15  
82 <210> SEQ ID NO: 5  
83 <211> LENGTH: 58  
84 <212> TYPE: DNA  
85 <213> ORGANISM: Artificial Sequence  
87 <220> FEATURE:  
88 <223> OTHER INFORMATION: Description of Artificial Sequence:Factor for  
89 Inversion Stimulation (Fis) binding sites  
90 separated by 23 bp; separated 23  
92 <400> SEQUENCE: 5  
93 ggaattcttt gctcaaaatt tgatcaggat cctgatcaaa ttttgagcaa agaattcc 58  
96 <210> SEQ ID NO: 6  
97 <211> LENGTH: 21  
98 <212> TYPE: DNA  
99 <213> ORGANISM: Artificial Sequence  
101 <220> FEATURE:  
102 <223> OTHER INFORMATION: Description of Artificial Sequence:18.1 bit Fis  
103 site  
105 <400> SEQUENCE: 6  
106 tttgctcaaa atttgatcaa a 21  
109 <210> SEQ ID NO: 7  
110 <211> LENGTH: 21  
111 <212> TYPE: DNA  
112 <213> ORGANISM: Artificial Sequence  
114 <220> FEATURE:  
115 <223> OTHER INFORMATION: Description of Artificial Sequence:18.1 bit Fis  
116 site  
118 <400> SEQUENCE: 7  
119 tttgatcaaa ttttgagcaa a 21  
122 <210> SEQ ID NO: 8  
123 <211> LENGTH: 21  
124 <212> TYPE: DNA  
125 <213> ORGANISM: Artificial Sequence  
127 <220> FEATURE:  
128 <223> OTHER INFORMATION: Description of Artificial Sequence:12.7 bit Fis  
129 site  
131 <400> SEQUENCE: 8  
132 tttgctcaaa gtttaaactt t 21  
135 <210> SEQ ID NO: 9  
136 <211> LENGTH: 21  
137 <212> TYPE: DNA  
138 <213> ORGANISM: Artificial Sequence

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140 <220> FEATURE:
141 <223> OTHER INFORMATION: Description of Artificial Sequence:12.7 bit Fis
142     site
144 <400> SEQUENCE: 9
145 aaagtttaaa ctttgagcaa a                                21
148 <210> SEQ ID NO: 10
149 <211> LENGTH: 21
150 <212> TYPE: DNA
151 <213> ORGANISM: Artificial Sequence
153 <220> FEATURE:
154 <223> OTHER INFORMATION: Description of Artificial Sequence:15.0 bit Fis
155     site
157 <400> SEQUENCE: 10
158 tttgctcaaa atttgatcag g                                21
161 <210> SEQ ID NO: 11
162 <211> LENGTH: 21
163 <212> TYPE: DNA
164 <213> ORGANISM: Artificial Sequence
166 <220> FEATURE:
167 <223> OTHER INFORMATION: Description of Artificial Sequence:15.0 bit Fis
168     site
170 <400> SEQUENCE: 11
171 cctgatcaaa ttttgagcaa a                                21
174 <210> SEQ ID NO: 12
175 <211> LENGTH: 46
176 <212> TYPE: DNA
177 <213> ORGANISM: Escherichia coli
179 <220> FEATURE:
180 <223> OTHER INFORMATION: origin of replication (oriC)
182 <400> SEQUENCE: 12
183 gttatacaca actcaaaaac tgaacaacag ttgttctttg gataac    46
186 <210> SEQ ID NO: 13
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188 <212> TYPE: DNA
189 <213> ORGANISM: Artificial Sequence
191 <220> FEATURE:
192 <223> OTHER INFORMATION: Description of Artificial Sequence:Fis site
193     separated by 11 bases; 9.1 bit Fis site
195 <400> SEQUENCE: 13
196 gaacaacagt tgttc                                15
199 <210> SEQ ID NO: 14
200 <211> LENGTH: 15
201 <212> TYPE: DNA
202 <213> ORGANISM: Artificial Sequence
204 <220> FEATURE:
205 <223> OTHER INFORMATION: Description of Artificial Sequence:Fis site
206     separated by 11 bases; 8.4 bit Fis site
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209 actcaaaaac tgaac                                15

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212 <210> SEQ ID NO: 15  
213 <211> LENGTH: 113  
214 <212> TYPE: DNA  
215 <213> ORGANISM: Artificial Sequence  
217 <220> FEATURE:  
218 <223> OTHER INFORMATION: Description of Artificial Sequence:synthesized  
219 single very long nucleic acid with hairpin loop  
220 DNA  
222 <400> SEQUENCE: 15  
223 aacgggatcc actcaaaaac tgaacaacag ttgttcgaat tcctcgagcg atcggcgaag 60  
224 ccgatcgctc gaggaattcg aacaactgtt gttcagtttt tgagtggatc ccg 113  
227 <210> SEQ ID NO: 16  
228 <211> LENGTH: 21  
229 <212> TYPE: DNA  
230 <213> ORGANISM: Artificial Sequence  
232 <220> FEATURE:  
233 <223> OTHER INFORMATION: Description of Artificial Sequence:8.4 bit Fis  
234 site  
236 <400> SEQUENCE: 16  
237 tccactcaaa aactgaacaa c 21  
240 <210> SEQ ID NO: 17  
241 <211> LENGTH: 21  
242 <212> TYPE: DNA  
243 <213> ORGANISM: Artificial Sequence  
245 <220> FEATURE:  
246 <223> OTHER INFORMATION: Description of Artificial Sequence:10.0 bit Fis  
247 site  
249 <400> SEQUENCE: 17  
250 actgaacaac agttgttcga a 21  
253 <210> SEQ ID NO: 18  
254 <211> LENGTH: 21  
255 <212> TYPE: DNA  
256 <213> ORGANISM: Artificial Sequence  
258 <220> FEATURE:  
259 <223> OTHER INFORMATION: Description of Artificial Sequence:10.0 bit Fis  
260 site  
262 <400> SEQUENCE: 18  
263 ttcgaacaac tggtgttcag t 21  
266 <210> SEQ ID NO: 19  
267 <211> LENGTH: 21  
268 <212> TYPE: DNA  
269 <213> ORGANISM: Artificial Sequence  
271 <220> FEATURE:  
272 <223> OTHER INFORMATION: Description of Artificial Sequence:8.4 bit Fis  
273 site  
275 <400> SEQUENCE: 19  
276 gttgttcagt ttttgagtg a 21

VERIFICATION SUMMARY

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L:14 M:271 C: Current Filing Date differs, Replaced Current Filing Date